

Abstract

A process for the preparation of a polymerizable dental composition comprising the steps of

(a) preparing a liquid mixture comprising

(i) 1 to 99% w/w of a hybrid monomer component containing at least one hybrid monomer compound having one hydrolysable siloxane group and at least one polymerizable organic moiety, and

(ii) 99 to 1% w/w of a monomer component polymerizable with the polymerizable organic moiety of the hybrid monomer compounds; and

(b) adding at least a stoichiometrically sufficient amount of water to the mixture to hydrolyse the hydrolysable siloxane group of the hybrid monomer compound and to form spherical polymerizable nanoparticles having an average particle size of from 1 to 100 nm dispersed in the monomer component, whereby the nanoparticles have a structure with Si-O-Si bonds and peripherally exposed polymerizable organic moieties.